

Operating Instructions

ISC Intelligent System Control

AUDIO/VIDEO STEREO RECEIVER

VSX-505S

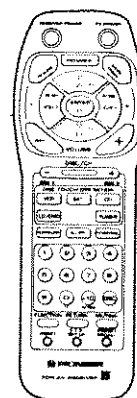
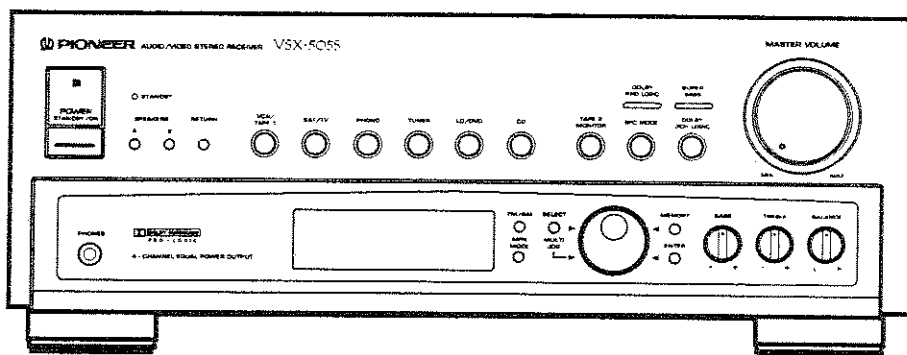


Illustration shows Multi-voltage model.

Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However the method of connecting and operating the unit is the same.

IMPORTANT NOTICE

[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

[For Canadian model]

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

DEMO MODE

- The demonstration mode is activated by turning on the power switch while holding down the RETURN button (from power standby condition). The demonstration will appear on the display.
- Press any button to cancel the demonstration. Activating the demonstration mode causes memory contents to return to their original default condition, except the tuner.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

RETURN function

This function returns the unit to its initial settings with the tuner ready to receive a broadcast. This is helpful during troubleshooting or when no sound is output. For details, refer to page 13.

THE POWER SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION.

IMPORTANT



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS – All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS – The safety and operating instructions should be retained for future reference.

HEED WARNING – All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS – All operating and use instructions should be followed.

WATER AND MOISTURE – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION – The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING – The appliance should not be mounted to a wall or ceiling.

VENTILATION – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION – If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING – The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES – An outdoor antenna should be located away from power lines.

NONUSE PERIODS – The power cord of the appliance should be unplugged from the outlet when left un-used for a long period of time.

OBJECT AND LIQUID ENTRY – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE – The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged.
- Objects have fallen, or liquid has been spilled into the appliance.
- The appliance has been exposed to rain.
- The appliance does not appear to operate normally or exhibits a marked change in performance.
- The appliance has been dropped or the enclosure damaged.

SERVICING – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

OUTDOOR ANTENNA GROUNDING – If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.

In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

CART – An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



NEC – NATIONAL ELECTRIC CODE

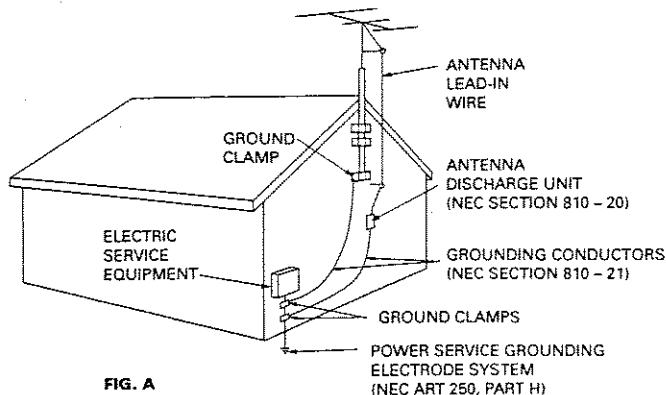


FIG. A

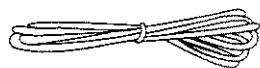
Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

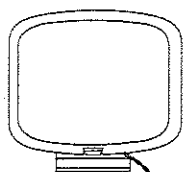
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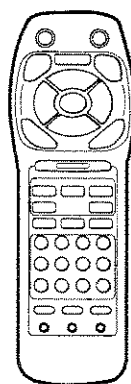
ACCESSORY ITEMS



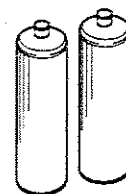
FM antenna



AM Loop Antenna



Remote control unit



Dry cell battery
(AA/LR6) ×2

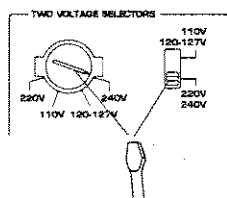
BEFORE OPERATING, ADJUST THE POSITION OF THE THESE SWITCHES

TWO VOLTAGE SELECTOR SWITCHES (Not available on U.S. and Canadian models)

Only multi-voltage model is provided with these switches. U.S. and Canadian models are not provided with these switches. Mains voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with the 110 V setting in Saudi Arabia.

The line voltage selector switches are on the rear panel. Check that they are set properly before plugging the power cord into the household wall socket. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switches as follows.

1. Use a medium-size screwdriver.
2. First, insert the screwdriver in the groove of the voltage selector at the right, and adjust so that the tip of the groove points to the voltage value of your area.
3. Next, insert the screwdriver in the groove of the voltage selector at the left and adjust until the voltage is the same as at the right.



Medium-size screwdriver

CHANNEL STEP SWITCH (Multi-voltage model only)

The unit has been factory preset to the channel allocation value for the area in which it is to be sold. If this value is set incorrectly, the tuned in frequency may be wrong, or sound may be distorted, resulting in an inability to reproduce reception signals at their proper sound quality. For this reason, be sure to confirm that the values are set correctly before first using the unit.

(FM 100 kHz/AM 10 kHz) position:

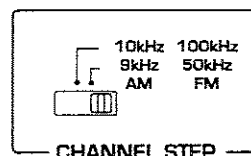
Set to this position for areas with an FM reception step of 100 kHz and AM 10 kHz.

(FM 50 kHz/AM 9 kHz) position:

Set to this position, for areas with an FM reception step of 50 kHz and AM 9 kHz.

NOTE:

When unsure about the channel allocation for your area, consult your dealer for correct information.



CHANNEL STEP

ONE TOUCH OPERATION

ISC *Intelligent System Control*

ISC (Intelligent system control) is a general term for the following functions.

● One touch operation

This enables the desired operation using a button.

● Easy set up

This enables the easy operation of setting the remote control's code number, surround and one-touch operation according to the message on the display.

● Heads up remote

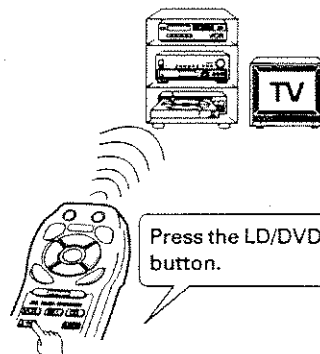
The operational characteristic of remote control is intensified to five buttons (Select/Adjust buttons (Δ, ◀, ▶, ▽) and ENTER (▷) button).

What is one-touch operation?

One-touch operation enables operation of multiple audio/video functions at the touch of a button.

For example, with LD play one-touch operation, the following operations are performed automatically after you press a single button on the remote control.

- | | |
|------------|-------------|
| ① RECEIVER | POWER ON |
| ② RECEIVER | FUNCTION LD |
| ③ TV | POWER ON |
| ④ LD | POWER ON |
| ⑤ LD | PLAY |



When the components you are using are all made by Pioneer, you can use the factory settings.

Using with other makers' products

Another maker's code numbers can be set.

Even if the TV and LD player you use are not Pioneer products, you can still control them by using this unit's "SELECT THE MAKER AND CORD NUMBER OF THE EQUIPMENT TO BE OPERATED (PRESET RECALL)" (P.26) to change maker cord numbers.

The ONE TOUCH OPERATION can be set.

Every program source can be set putting together some operations such as turning the power of TV or program source ON/OFF and playback automatically or not into one operation, using "SET UP THE ONE TOUCH OPERATION OF THE EQUIPMENT TO BE OPERATED" on page 27.

NOTE:

When the one-touch operation is executed, the remote control widely outputs signals, however, it is not easy to operate sometimes due to the setting condition and performance of a unit. In this case, it is recommended to change the angle or the distance of remote control, and concentrate the system setting.

SURROUND EFFECT

This unit has a built-in surround processor for adding presence and an expansive effect to the sound.

STUDIO:

Select this position to enjoy the effect of listening to music in a recording studio.

The actual source sound is output through the front speakers, and the added reverberated sound is output through the rear speakers.

This is particularly suitable for a source that has a lot of reverberation.

SIMULATED SURROUND:

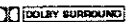
The "SIMULATED SURROUND" creates the effects of reverberated and reflected sound from the walls and ceiling similar to a concert hall. These sound-effects added to the actual sound from the source make you feel as if you were in a more expanded space. The different ranges of the expanded space can be set by the DELAY TIME button.

Set the Delay Time to 15 ms or 20 ms for a live-house concert. For chamber music, set to 20 ms. For orchestral music, set to 30 ms. The "SIMULATED SURROUND" also gives effects on monaural sources by outputting the added reverberated sound from the rear speakers while outputting the actual source sound from the front speakers. Turn on the "SIMULATED SURROUND" for a monaural source to gain effective surround playback.

ARENA:

This is ideal for sources such as live performances. Music is output from the front speakers and the sounds and applause of the audience are output through the rear speakers. Adjusting the delay time provides the effects of listening in halls of different sizes.

DOLBY* PRO LOGIC SURROUND:

Choose this setting for movies and music (especially Video Discs and video tapes bearing the  mark) playback. DOLBY PRO LOGIC SURROUND continuously detects the size and direction of the dominant signal and cancels undesirable crosstalk, thereby providing signal emphasis. It makes you clearly perceive the directional source of the music. Real flow of sound also can be re-created naturally using this feature. You can feel as if being in an outstanding and expansive sound field. When using DOLBY PRO LOGIC SURROUND, a delay time setting of 20 ms is commonly used. Use a different setting if you prefer. Even if the video recordings do not bear the  mark, some of them may be Dolby Surround encoded. Choose the SIMULATED SURROUND mode if the source sound signal is mono. Little or no sound will be heard from the surround speakers if the DOLBY PRO LOGIC SURROUND mode is selected. With DOLBY PRO LOGIC SURROUND, monaural source sound will be heard only from the center channel at settings other than the PHANTOM position.

Note:

Dolby Surround will not operate correctly if the signal passes through a graphic equalizer. When using Dolby Surround, turn off the TAPE 2 MONITOR or set the graphic equalizer for flat response or to its "through" (or off) setting, if you have one in use.

*

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*

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DOLBY 3CH LOGIC

Combining the rear speaker signal with that of the front speakers results in your being able to enjoy a regenerated sound field which has comparatively more presence and a more expansive feeling from the front 3 channels (front L, front R, and center speakers) than that of ordinary stereo regeneration. DOLBY 3CH LOGIC can be used with stereo sources not encoded with DOLBY SURROUND.

DOLBY PRO LOGIC SURROUND, DOLBY 3CH LOGIC CENTER MODE

(For DOLBY PRO LOGIC SURROUND and DOLBY 3CH LOGIC)

You can choose from the following settings:

Center Mode Choices:

When using a center speaker:

- **NORMAL**—Low range frequencies, which have little effect on directionality and positioning, are routed to the left and right front speakers. This allows you to use a relatively small size speaker as the center speaker.
- **WIDE**—If you use a large size center speaker, choose this setting. The full frequency range of the Dolby Surround center channel, is routed to the center speaker.

When not using a center speaker: DOLBY PRO LOGIC SURROUND only

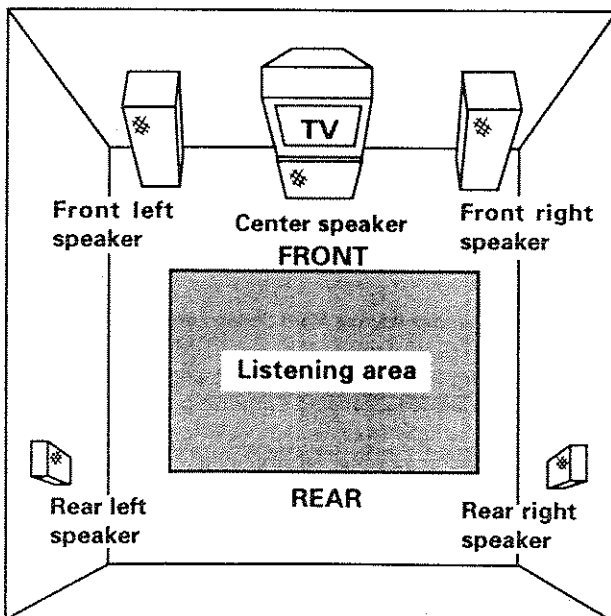
- **PHANTOM**—The signal which would have been sent to the center speaker is divided equally between the left and right front speakers.

With DOLBY PRO LOGIC SURROUND, monaural source sound will be heard only from the center channel at settings other than the PHANTOM position.

SPEAKER INSTALLATION

To get the most out of the surround system, place the speakers as shown below.

An example of speaker location



If the rear speakers are positioned at an extreme distance from the front and center speakers, the surround level becomes unable to adjust and the surround effect will not be fully achieved.

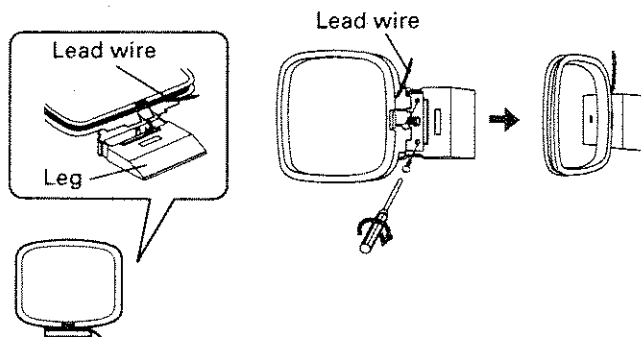
NOTES:

- To avoid interference with the picture on a nearby TV set, use magnetically shielded speaker systems. This is particularly important for the center speaker since it is usually located closest to the TV.
- Position the left and right channel speakers at equal distances from the TV set and approximately 1.8 m (6 feet) from each other.
- Position the center speaker above, below, or behind the TV set. Sound may not appear to coincide with the picture if you position it next to the TV set.
- Rear speakers are best positioned slightly above ear level.

CONNECTIONS

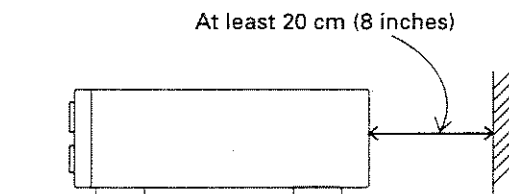
Setting Up the AM Antenna

- Insert the claw on the bottom of the antenna into the groove in the leg.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.
- Use the attachment hole in the leg to screw to a wall or other location, then insert the claw on the bottom of the antenna into the groove in the leg (fixing the antenna in the direction that gives the best reception.)



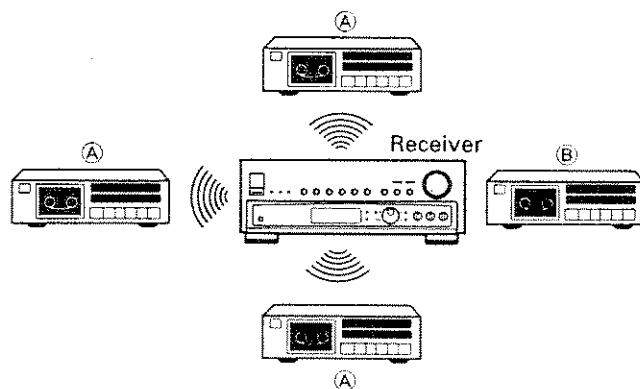
Installation Precautions

- The rear panel vents are designed to disperse heat from the unit. Be careful that curtains or other items do not block the vents.
- To improve heat dispersion, set the unit so that it is at least 20 cm (8 inches) away from the wall.



Precaution regarding installation position of cassette deck

If the cassette deck is installed in the (A) positions shown in the drawing below, it may be adversely affected during playback. If possible, it's better to install it in the (B) position.



POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

AUDIO SYSTEM CONNECTIONS

Illustration shows Multi-voltage model.

Before making or changing the connections, switch off the power switch and disconnect the power cord from the AC outlet.

NOTE FOR FM ANTENNA:

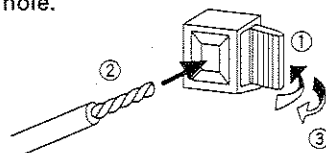
Stretch the antenna out to its full length, and affix it to a wall, etc.

NOTE FOR AM LOOP ANTENNA:

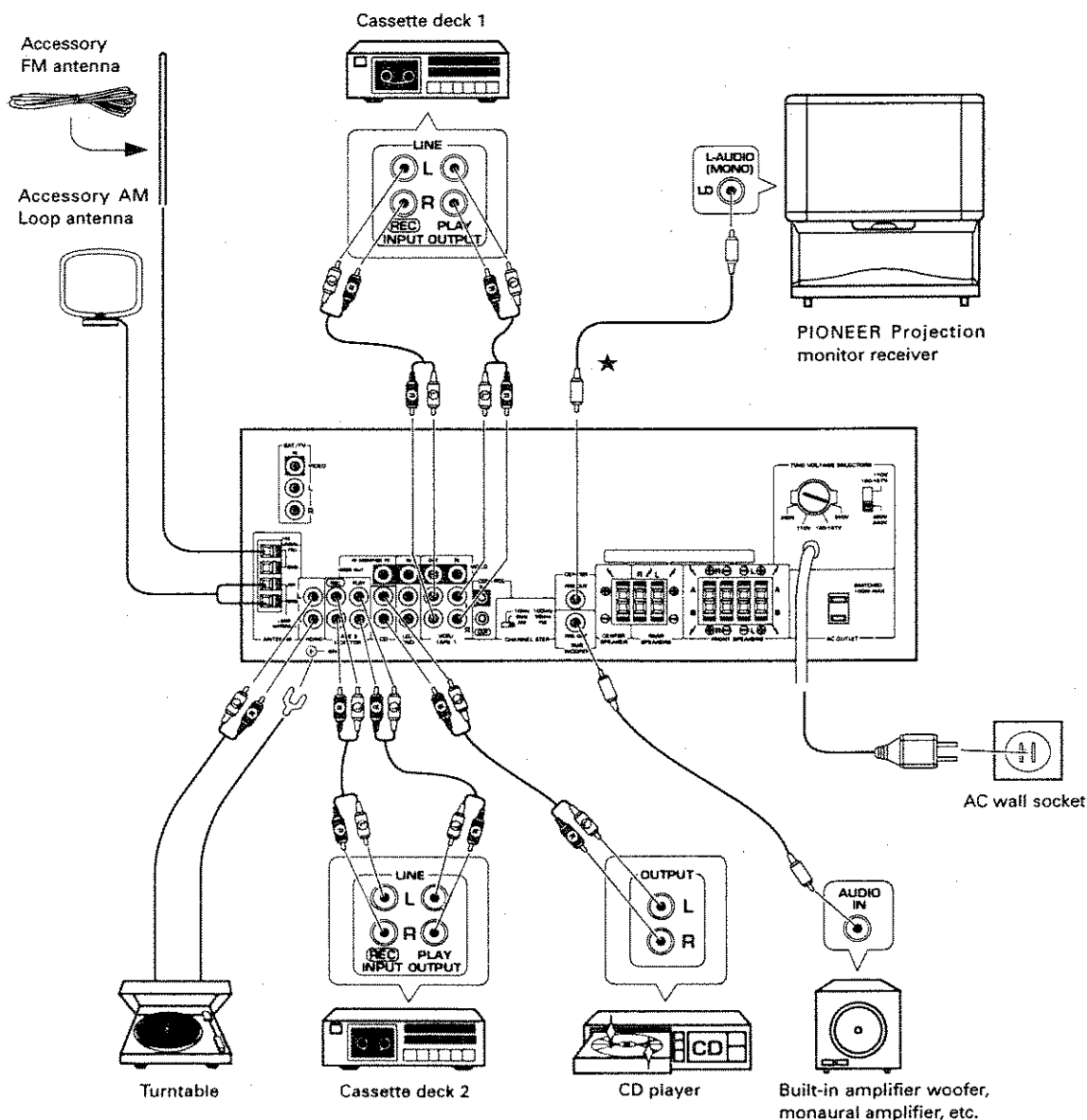
The antenna should be placed at a distance from the receiver, and should not be allowed to touch metallic objects. Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

AM loop antenna and FM antenna connection

- ① Push the lever.
- ② Insert the wire into the hole.
- ③ Pull the lever back.



- ★ Connect when using a PIONEER projection monitor receiver's built-in speaker as a center speaker. Refer to the projection monitor's operating instructions for details concerning connection and operation.



To connect the Pioneer Powered Subwoofer (S-W700 or S-W99), connect the receiver's SUB WOOFER output to the subwoofer's input.

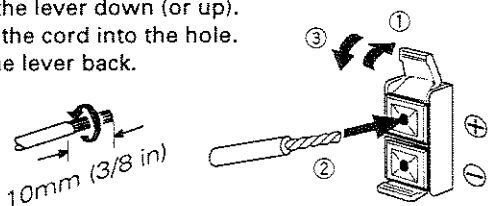


CONNECTIONS

SPEAKER CONNECTIONS

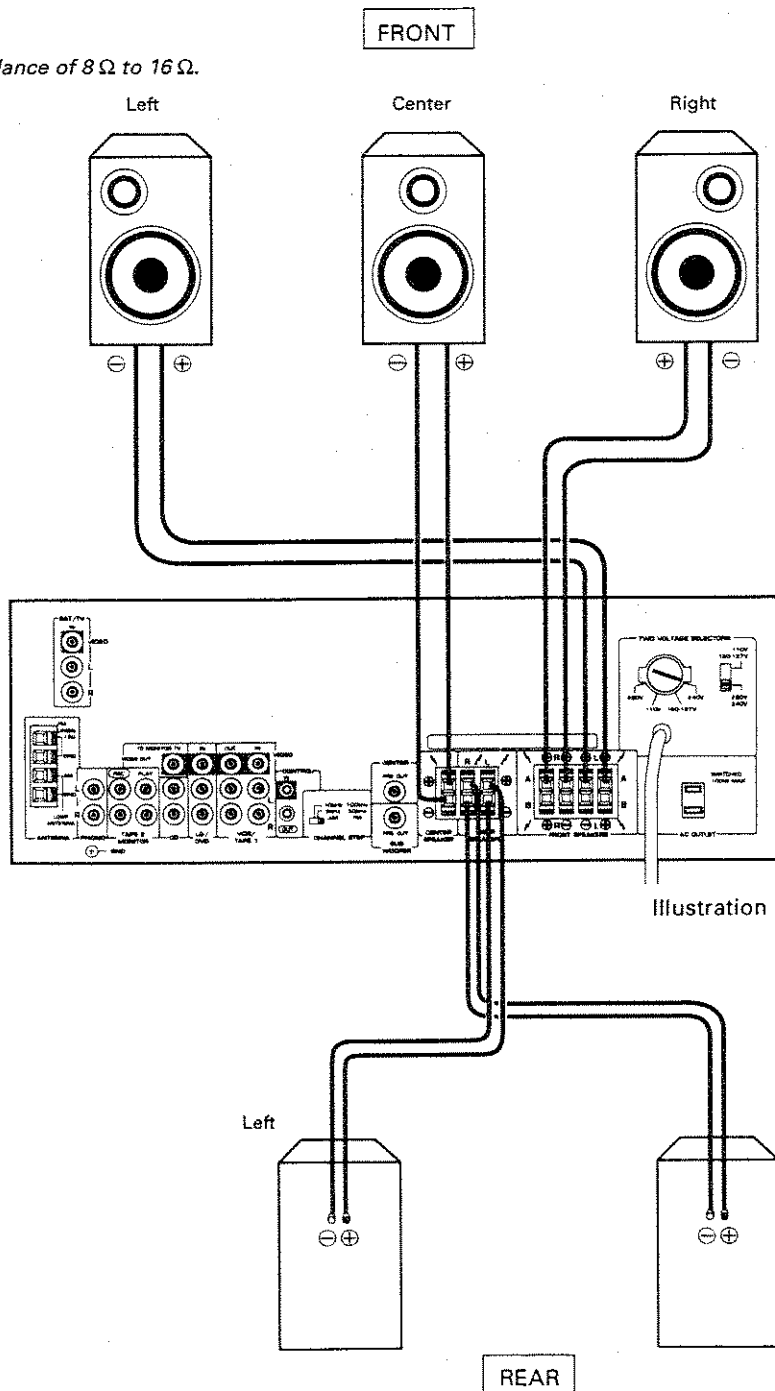
Speaker cord connection

- ① Push the lever down (or up).
- ② Insert the cord into the hole.
- ③ Pull the lever back.



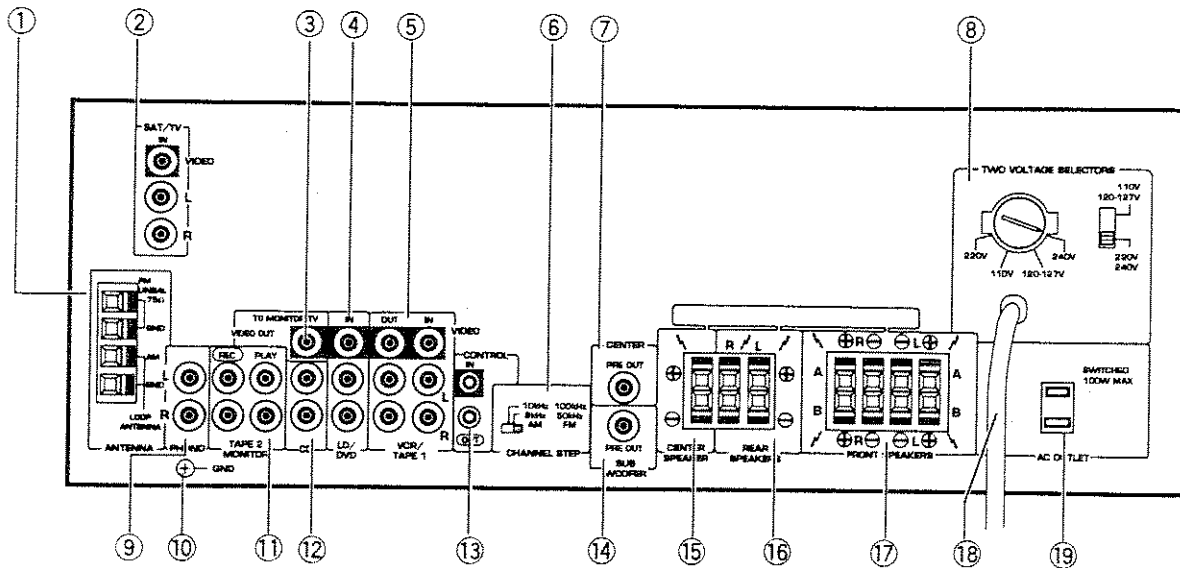
NOTE:

Use speakers with an impedance of $8\ \Omega$ to $16\ \Omega$.



REAR PANEL FACILITIES

Illustration shows Multi-voltage model.



① FM/AM ANTENNA terminals

Use these antenna terminals for reception of normal FM and AM broadcasts.

② SAT(Satellite)/TV jacks (input)

Use these jacks if you wish to connect a TV (Digital satellite system) tuner with both video and audio outputs.

③ VIDEO OUT (TO MONITOR TV) jack

Connect to a monitor TV or to TV sets with video input terminals to watch program materials from a VCR or LD player connected to this unit.

④ LD/DVD input jacks

Connect to an LD player's output jacks (audio, video) or a DVD player's output jacks (audio, video).

⑤ VCR/TAPE 1 jacks

Connect to a VCR or the first cassette deck. With a VCR, also connect the video jacks.

⑥ CHANNEL STEP switch (Multi-voltage model only)

See page 4.

⑦ CENTER PRE OUT jack

When a separate power amplifier is used to drive the surround center speaker, connect the power amplifier to this jack.

⑧ TWO VOLTAGE SELECTORS switches (Multi-voltage model only)

See page 4.

⑨ PHONO input jacks

Connect to the output cables from a turntable.

⑩ GND terminal

Connect the turntable ground lead to this terminal.

NOTE:

This is used to decrease noise and does not serve as a complete ground.

⑪ TAPE 2 MONITOR jacks

Connect to audio components such as a second cassette deck or a graphic equalizer.

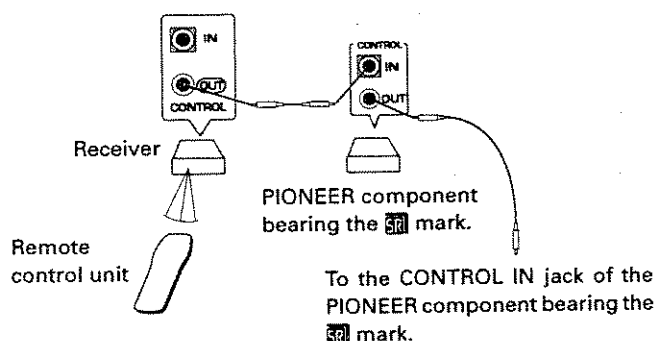
⑫ CD input jacks

Connect to the output jacks of a compact disc player.

REAR PANEL FACILITIES

⑬ CONTROL IN/OUT jacks

- IN** :Connects this jack to the control out jack of an unit attached  mark using a commercially available cord with mini-plugs (without load). The remote control signal sensor of this unit will not receive the remote control signal while connecting. The unit attached  mark can be operated using a remote control through the connected cord from the remote control sensor of another unit attached .
- OUT** :Connects this jack to the control input jack of an unit attached  mark using a commercially available cord with mini-plugs (without load). Outputs the remote control signal to another unit from this unit or the relay signal from the control input jack.



NOTES:

- If there is a plug in this unit's CONTROL IN jack, ISC operations using the remote control unit are not possible.
- The remote control unit provided with this unit adopts a different method from the remote control units of Pioneer systems. Consequently, this unit and other components will not operate when the remote control unit is directed at the remote control signal sensor window of the connected components. Other components will not operate unless a signal is received by the sensor window of this unit, and this unit consequently converts the signal received to the remote control signal corresponding to the other component.

⑭ SUB WOOFER PRE OUT jack

If you want to boost the low frequencies, connect to a subwoofer power amplifier.

⑮ CENTER SPEAKER terminals

Connect the center speaker to these terminals.

NOTE:

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctions or breakdowns may occur when conductors come into contact with each other. Use a center speaker with an impedance of 8 Ω to 16 Ω .

⑯ REAR SPEAKERS terminals

Connect the rear speakers to these terminals.

NOTES:

- Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctions or breakdowns may occur when conductors come into contact with each other. Use rear speakers with an impedance of 8 Ω to 16 Ω .
- Be sure to connect two speakers (L, R). There will be no sound if only one speaker is connected.

⑰ FRONT SPEAKERS terminals

A :Connect to the first set of speakers.

B :Connect to the second set of speakers.

NOTE:

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctions or breakdowns may occur when conductors come into contact with each other. Use front speakers with an impedance of 8 Ω to 16 Ω .

⑱ Power cord

⑲ AC OUTLET

(U.S. and Canadian models)

[SWITCHED 100 W (0.8 A) MAX]

Power supplied through this outlet is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W (0.8 A).

(Multi-voltage model)

[SWITCHED 100 W MAX]

Power supplied through this outlet is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

NOTES:

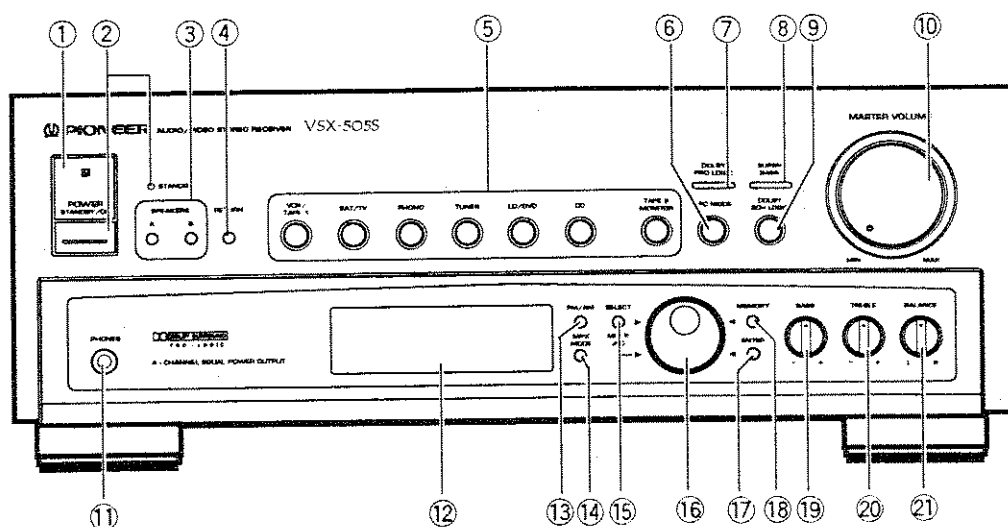
- This unit should be disconnected by removing the power plug from the wall socket when not in regular use, e.g. when on vacation.
- Do not connect appliances with high power consumption such as heaters, irons, or television sets to this AC OUTLET in order to avoid overheating and fire risk. This can cause the receiver to malfunction.

CAUTION:

DO NO CONNECT MONITOR OR TV SET TO THE AC OUTLET.

FRONT PANEL FACILITIES

Illustration shows multi-voltage model.



① Remote sensor

② POWER STANDBY/ ON switch STANDBY indicator (Multi-voltage model only)

This is the switch for electric power.

ON :When set to the ON position, power is supplied and the unit becomes operational.

STANDBY :When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

(Multi-voltage model only)

The STANDBY indicator lights when the power is set to STANDBY, and goes out when set to ON.

(Timer ON/OFF possible)

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 5 seconds.

③ SPEAKERS buttons (A, B)

ON/OFF switches for the A and B speaker systems.

④ RETURN button

Press this button to return the receiver to its initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

TAPE 2 MONITOR	OFF	MUTING	OFF
SFC MODE	OFF	FUNCTION	TUNER
SUPER BASS	OFF		

And SPEAKERS buttons switch as follows.

Before pressing the RETURN button	After pressing
Both A and B are off	→ Only A is on
Only A is on	→ No change
Only B is on	→ Both A and B are on
Both A and B are on	→ No change

NOTE:

Press the RETURN button, and the frequency last selected is received. If reception of the frequency last selected is not possible, the mode automatically switches to AUTO TUNING.

⑤ Input selector buttons

VCR/TAPE 1

:Press when performing playback on a VCR unit or cassette deck.

SAT/TV :Press to watch TV broadcasts from the TV (Digital satellite system) tuner connected to the rear panel SAT/TV IN jacks.

PHONO :Press when playing records on a turntable.

TUNER :Press when listening to radio broadcasts.

LD/DVD :Press when performing playback on an LD or a DVD player.

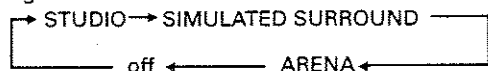
CD :Press when playing compact discs on a CD player.

TAPE 2 MONITOR

:Press when performing playback on a second cassette deck and when monitoring recording.

⑥ SFC MODE button

Each time you press it, the mode and the display indications change as follows.



⑦ DOLBY PRO LOGIC button

Switches DOLBY PRO LOGIC SURROUND on and off.

⑧ SUPER BASS button

Press this button when you want to boost the bass.

⑨ DOLBY 3CH LOGIC button

Select this setting when stereo-source regeneration and rear speakers are not connected and you wish to use the front L, front R, and center speakers to enjoy audio/visual material bearing the mark.

⑩ MASTER VOLUME control

Use it to simultaneously adjust the sound volume from the front, center, and rear speakers.

⑪ PHONES jack

Connect the plug on your headphones to this jack. Set SPEAKERS A and B switches to OFF if you want to cut the sound from the speakers and listen to it only through the headphones.

⑫ Display section

See page 15.

⑬ FM/AM button

Use this to switch between FM and AM frequency band reception.

⑭ MPX MODE button

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the MONO indicator in the display section is lit.

Auto stereo mode

Normally, leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo.

Monaural mode

When receiving distant stations or stations with weak broadcast signals, the input signal may be weak, thus resulting in increased noise during FM stereo broadcasts. In this event, setting the receiver to the monaural mode will reduce the noise. In this case, however, FM stereo broadcasts will be reproduced in monaural sound.

NOTE:

This button has no effect on reception of AM broadcasts.

⑮ SELECT button

Press this button to switch to the station mode. Then you can turn the MULTI-JOG to select a station.

When in the Frequency mode, tuning the MULTI-JOG raises or lowers the frequency.

⑯ MULTI-JOG

Use during tuner operation to select frequencies and station numbers.

⑰ ENTER button

Press this button when you are in the frequency preset mode, and the displayed frequency is memorized in the selected station. (Station indications stop flashing and stay lit.)

⑱ MEMORY button

Press this button to switch to the frequency preset mode.

⑲ BASS control

Use to adjust the low-frequency level. Turn clockwise to boost bass, and counterclockwise to attenuate bass.

⑳ TREBLE control

Use to adjust the high-frequency level. Turn clockwise to boost treble, and counterclockwise to attenuate treble.

㉑ BALANCE control

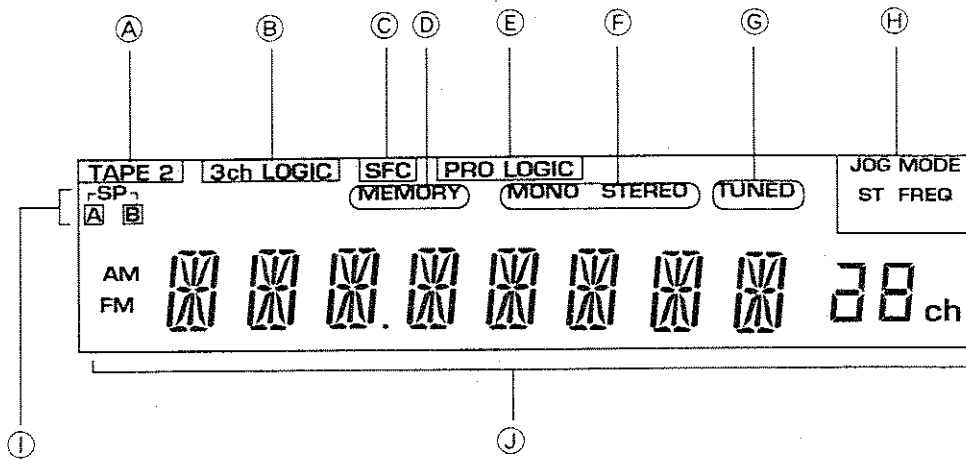
Use to adjust the sound volume balance between left and right speakers.

L :Decreases the sound on the right side.

R :Decreases the sound on the left side.

Usually, left and right volume levels should be the same.

DISPLAY SECTION



Ⓐ TAPE 2 indicator

Lights up when the input selector is set to TAPE 2 MONITOR ON.

Ⓑ DOLBY 3CH LOGIC indicator

Ⓒ SFC indicator

This lights when an SFC mode (STUDIO, SIMULATED SURROUND, ARENA) is selected.

Ⓓ MEMORY indicator

Ⓔ DOLBY PRO LOGIC indicator

Ⓕ MONO/STEREO indicator

MONO :Lights up when the FM MONO mode is selected with the MPX MODE button.

STEREO :Lights up when a stereo FM broadcast is being received.

Ⓖ TUNED indicator

Lights up when a station is tuned.

Ⓗ JOG MODE indicators

When operating the TUNER with the multi-jog, these indicate the station mode (ST) or the frequency mode (FREQ).

Ⓘ SP (SPEAKERS) A, B indicators

Shows which speaker system (or systems) are switched on.

Ⓙ Character display

OPERATING THE TUNER

Press the POWER switch to the ON position.

Select TUNER with the input selector.

Be sure to turn the TAPE 2 MONITOR button OFF when listening to AM or FM broadcasts.

Switch ON the SPEAKERS button corresponding to the speakers you wish to use.

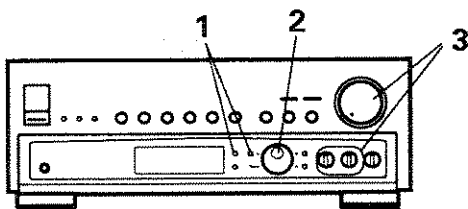
FM auto stereo reception and monaural reception

Each time you press the MPX MODE button, the MONO indicator in the display section lights or goes out.

- If an FM stereo broadcast is received when the MONO indicator is out, the STEREO indicator lights, and sound is in stereo.
- If an FM stereo broadcast is received when the MONO indicator is lit, the sound will be monaural. If there is interference during stereo mode reception, switch to mono. The sound will become monaural but interference will be reduced.

TUNING INTO STATIONS

Turn the MULTI-JOG, and the tuning frequency changes. Turning in a clockwise direction raises the frequency, while turning in a counter-clockwise direction lowers the frequency.



1. **Use the FM/AM button to select either FM or AM.**
Confirm that the JOG MODE indicator in the display shows "FREQ".
If "ST" is displayed, press the SELECT button to switch to "FREQ".
2. **Turn the MULTI-JOG until you reach the frequency of a desired station.**
When a station is received, the TUNED indicator will light up.

NOTE:

The TUNED indicator may not light with broadcasts received over long distances, or when the broadcast signals are extremely weak.

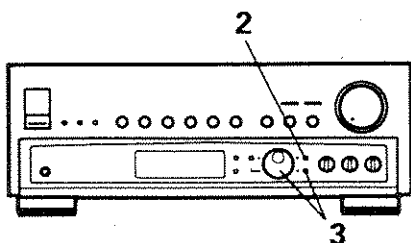
3. **Adjust the volume and tone as desired.**

Auto tuning

Auto tuning is convenient when you do not remember the frequency of a desired station, or when you wish to find stations that you do not normally listen to. Operate by remote control. (Refer to page 23.)

PRESET TUNING

FREQUENCY PRESETTING

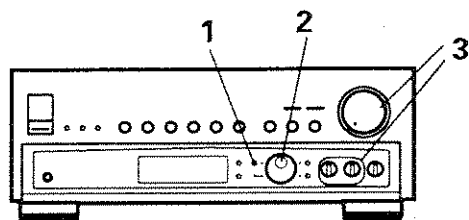


1. **Tune into the desired station.**

See the section "TUNING INTO STATIONS". In addition to station frequencies, the MPX MODE (auto stereo mode or monaural mode) can also be preset (FM only).

2. **Press the MEMORY button.**
The station number flashes in the display. (Memory mode)
3. **Turn the MULTI-JOG to select the station you want to memorize, and press the ENTER button.**
 - The station number lights in the display, indicating that it has been memorized.
 - If you do not press the ENTER button within about five seconds after selecting a station, the memory mode is canceled.
4. **Repeat steps 1 to 3 to preset additional stations.**
A total of 30 AM and FM stations may be preset. When you store a new preset, it takes the place of the previously stored station (if any).

LISTENING TO BROADCASTS USING PRESET TUNING



1. Press the **SELECT** button.
The "ST" of the JOG MODE's indicator lights in the display, and the mode switches to station call.
2. Turn the **MULTI-JOG** to select a station.
3. Adjust the volume and tone as desired.

NOTE:

Even if the receiver power cord is unplugged, data remains in memory for several days. If the contents of the memory are erased, preset once more.

Last station memory

When the POWER switch is pressed to turn the power on, the last station received before the power was previously turned off will be turned in again. When the power is ON, if the FM/AM button is pressed, the last station received before the FM/AM button was previously pressed will be turned in again.

RECEIVING FM SIMULCAST TV PROGRAMS

By combining a TV set with this receiver, you can receive FM simulcast TV programs (stereo TV sound transmitted from an FM radio station) while viewing the video portion on your TV.

1. Select the desired TV program with the TV set.
2. Tune in the desired FM simulcast TV program on the receiver.
3. Adjust the volume and tone controls as desired.

OPERATING THE AUDIO/VIDEO COMPONENTS

Press the power switch to the ON position, and turn on the power to the other components you wish to use (for example, TV, VCR, cassette deck, etc.).

PLAYBACK

1. Use the input selector buttons to select the desired program source.

Program Source	Input selector
To play back on a VCR connected to the VCR/TAPE 1 jacks, or to play back on a cassette deck	VCR/TAPE 1
To watch the TV picture from a TV (Digital satellite system) tuner connected to the SAT/TV jacks	SAT/TV
To listen to records	PHONO
To watch a LaserDisc or a digital video disc	LD/DVD
To listen to compact discs	CD
To listen to a tape on the cassette deck connected to TAPE 2 MONITOR jacks	TAPE 2 MONITOR

* If you select a music source other than TAPE 2, switch OFF the TAPE 2 MONITOR.

2. Operate the appropriate audio/video component to play back the program source.
For a video source, switch the TV connected to this unit to the video input mode.
3. Adjust the volume and tone controls as desired.
Refer to pages 5, 6 and 24 for details concerning surround operation.

RECORDING WITH A CASSETTE DECK

RECORDING WITH VCR/TAPE 1

If the TAPE 2 MONITOR button is ON, press to turn OFF.

1. **Select the source you want to record from with the input selector buttons.**

When recording AM or FM broadcasts, select a preset station using the MULTI-JOG. If the desired station has not been preset, tune in the station.

2. **Start recording on the cassette deck.**
3. **Play the desired program source (record, compact disc, etc.).**

The volume, balance, and tone controls have no effect on the recording.

RECORDING WITH TAPE 2

1. **Select the source you want to record from with the input selector buttons.**
2. **Start recording on the TAPE 2 cassette deck.**
3. **Play the desired program source (record, compact disc, etc.).**

The volume, balance, and tone controls have no effect on the recording.

When copying a tape, play back on the VCR/TAPE 1 cassette deck, and record on the TAPE 2 cassette deck.

Tape monitoring

When recording is performed on a cassette deck equipped with a monitoring function, the recorded sound can be monitored through the speaker system by pressing the TAPE 2 MONITOR button to ON.

VIDEO RECORDING

1. **Select the source you want to record from with the input selector buttons.**

- When recording from a LaserDisc or a digital video disc to VCR→LD/DVD
- When recording from the TV (Digital satellite system) tuner to VCR→SAT/TV

2. **Start recording on the VCR.**

For VCR, select a line input (external input).

3. **Start playback on the component selected with the input selector.**

The volume, balance, and tone controls have no effect on the recording.

HINTS FOR BETTER RECEPTION

EXTERNAL FM ANTENNA

The main advantage of FM over AM is the quality of the broadcast signal. In order to benefit fully from the high signal quality of FM broadcasts, it is recommended that a special-purpose FM antenna be installed. In weak signal areas, a multi-element (3-element, 5-element, 7-element) antenna should be used.

GROUNDING

Grounding is recommended if reception of FM programs is impaired by noise. To ground, connect a thick polyvinyl-insulated wire to the GND terminal and attach the other end to a metal water pipe or grounding bar or wind it around a copper plate and bury it.

NOTE:

Never connect a wire to a gas pipe for grounding since sparks may ignite the gas.

EXTERNAL AM ANTENNA

If it is not possible to obtain adequate AM reception even by changing the orientation of the AM loop antenna, a separate indoor antenna or an outdoor antenna should be installed.

INDOOR AM ANTENNA

Use a vinyl-insulated wire 5 to 6 meters long (15 to 18 feet) and connect one end to the AM antenna terminal and affix the other end to the wall or ceiling, as high as possible.

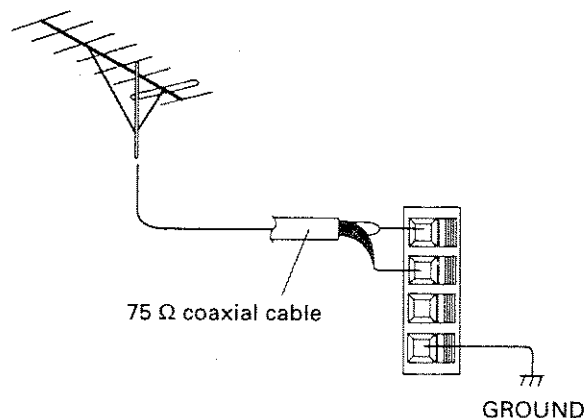
NOTE:

Do not detach the AM loop antenna when using an indoor or an outdoor AM antenna.

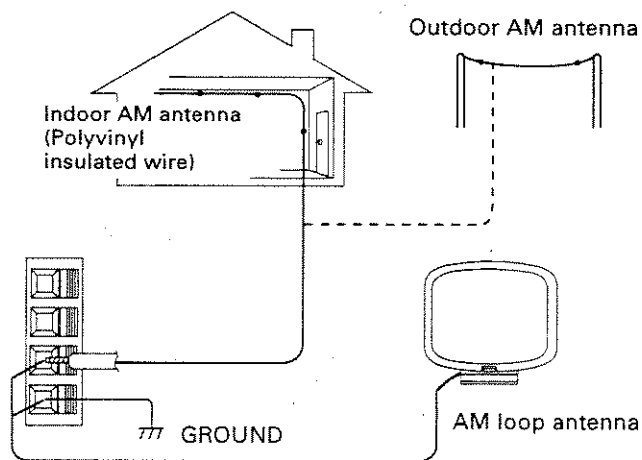
OUTDOOR AM ANTENNA

If reception quality is not improved sufficiently even when an indoor antenna is used, a vinyl-insulated wire should be installed outside and fixed in place.

Connecting the 75 Ω coaxial cable



AM antenna connection



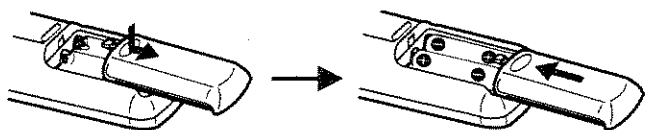
REMOTE CONTROL OPERATION

ISC *Intelligent
System Control*

The remote control unit of the VSX-505S is also recorded with the remote control codes of other maker's products. By performing "SELECT THE MAKER NAME AND CODE NUMBER OF THE EQUIPMENT TO BE OPERATED (PRESET RECALL)" (Page 26), other maker's products, excluding some models, can be operated by the remote control unit.

To execute the one touch operation, perform "SET UP THE ONE TOUCH OPERATION OF THE EQUIPMENT TO BE OPERATED (O.T.O. SET UP)" on page 27.

PUTTING BATTERIES INTO THE REMOTE CONTROL UNIT

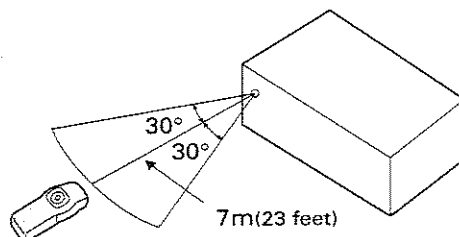


1. Open the battery compartment cover on the rear of the remote control unit. The cover should open easily if you slide it in the direction of the arrow while pressing on it with your thumb.
2. Take out the two supplied batteries (AA/LR6), and insert them into the battery compartment in accordance with the indications in the compartment.
3. Close the cover of the battery compartment.

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

- A.**
Always insert batteries into the battery compartment correctly matching the positive (+) and negative (-) polarities, as indicated inside the compartment.
- B.**
Never mix new and used batteries.
- C.**
Batteries of the same size may have different voltages, depending on their type. Do not mix different types of batteries.

REMOTE CONTROL RANGE



When operating the remote control unit, point the front of the unit at the front panel of the receiver. The remote control unit may be used within a range of about 7 meters (23 feet) from the remote sensor, within angles of up to about 30 degrees.

Performance of the remote control unit is adversely affected in the presence of a strong fluorescent light. Keep such lights away, especially from the sensor window.

Battery Replacement

As battery power runs down, the range over which the remote control unit can operate decreases. When the range becomes too short, change the batteries.

Changing batteries

If the button doesn't light even if a button of the ONE TOUCH OPERATION buttons is pressed, the batteries are dead and need to be changed. Memory is erased a short time after the batteries are removed, so be sure you have new batteries ready for quick replacement.

Also, be sure to use specified batteries (AA/LR6).

If you remove the battery case cover, power to the remote control is cut, making remote operation impossible. Be sure the battery case cover is on.

NOTE:

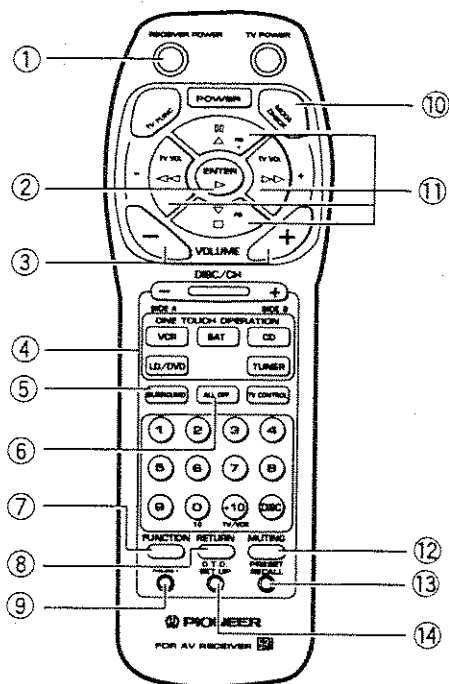
Even when batteries are removed, learned commands remain in memory for about 15 minutes.

NOTE:

- After loading new batteries, be sure to press the RESET button on the remote control unit.
- If you remove the batteries, replace the battery case cover, and press a button, memory is erased in a few seconds.

RECEIVER CONTROL BUTTONS

Buttons marked * have the same functions as those of the unit.



① * RECEIVER POWER button

Switches the receiver power between ON and STANDBY.

② ENTER button

Decides each mode when the PRESET RECALL, O.T.O. SET UP or SURROUND button is pressed.

③ * VOLUME +, - buttons

Adjusts the overall volume.

④ ONE TOUCH OPERATION buttons

VCR, CD, LD/DVD, SAT, TV, TUNER:

Pressing these buttons automatically calls up "SET UP THE ONE TOUCH OPERATION OF THE EQUIPMENT TO BE OPERATED (O.T.O. SET UP)" settings (P. 27), made using "EASY OPERATION OF OTHER MAKER'S PRODUCTS BY REMOTE CONTROL UNIT (REMOTE SET UP)". (P. 26)

Also, if power to this unit is OFF, it is switched ON, and operation automatically switches to the selected function.

⑤ SURROUND button

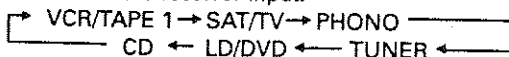
Selects the various SURROUND effects. Use together with the Select/Adjust buttons (Δ, ▷, ▽, ◁).

⑥ ALL OFF button

Turns the currently selected input source, TV, and this unit off according to the setting of "SET UP THE ONE TOUCH OPERATION OF THE EQUIPMENT TO BE OPERATED (O.T.O. SET UP)" (P. 27).

⑦ FUNCTION button

Press to select the receiver input.



⑧ * RETURN button

See page 13.

⑨ RESET button

Use this when normal operation is not possible because of external influences such as static electricity or lightning, or when operations are not functioning even when operation buttons are pressed. Press this button to return to normal operating conditions.

⑩ MODE CHECK button

Indicates whether the SURROUND mode or the REMOTE SET UP mode is on or off.

When it is on, Δ, ▷, ▽, ◁ light. When it is off, a ④ ONE TOUCH OPERATION button lights to indicate the current function.

If you press the button again while it is lit, remote control functions change. When the remote control is in the SURROUND mode or the REMOTE SET UP mode, the ⑪ Select/Adjust buttons (Δ, ▷, ▽, ◁) light.

⑪ Select/Adjust buttons (Δ, ▷, ▽, ◁)

When the SURROUND mode or the "EASY OPERATION OF OTHER MAKER'S PRODUCTS BY REMOTE CONTROL UNIT (REMOTE SET UP)" mode is ON, Δ, ▷, ▽, and ◁ light.

When using the SURROUND mode or the "EASY OPERATION OF OTHER MAKER'S PRODUCTS BY REMOTE CONTROL UNIT (REMOTE SET UP)" mode with the display, use for such operations as selection and adjustments (by moving the cursor). When the SURROUND mode or the "EASY OPERATION OF OTHER MAKER'S PRODUCTS BY REMOTE CONTROL UNIT (REMOTE SET UP)" mode is OFF, use to operate other components.

⑫ MUTE button

Used to temporarily mute the sound. When it's in the on position, the "MUTING" indications is displayed. The volume is restored when pressed again.

⑬ PRESET RECALL button

Presets the remote control codes of other maker's products (maker name and code number) recorded in the remote control unit to enable operation of these products. (P. 26)

⑭ O. T. O. SET UP (One touch operation set up) button

Sets up one touch operation for the equipment in the "SET UP THE ONE TOUCH OPERATION OF THE EQUIPMENT TO BE OPERATED (O.T.O. SET UP)" (P. 27) mode after performing the set up using the PRESET RECALL button. (P. 26)

OPERATING OTHER COMPONENTS

REMOTE CONTROLLING OF ANY OTHER OF YOUR AUDIO-VISUAL COMPONENTS VIA THIS UNIT REQUIRES:

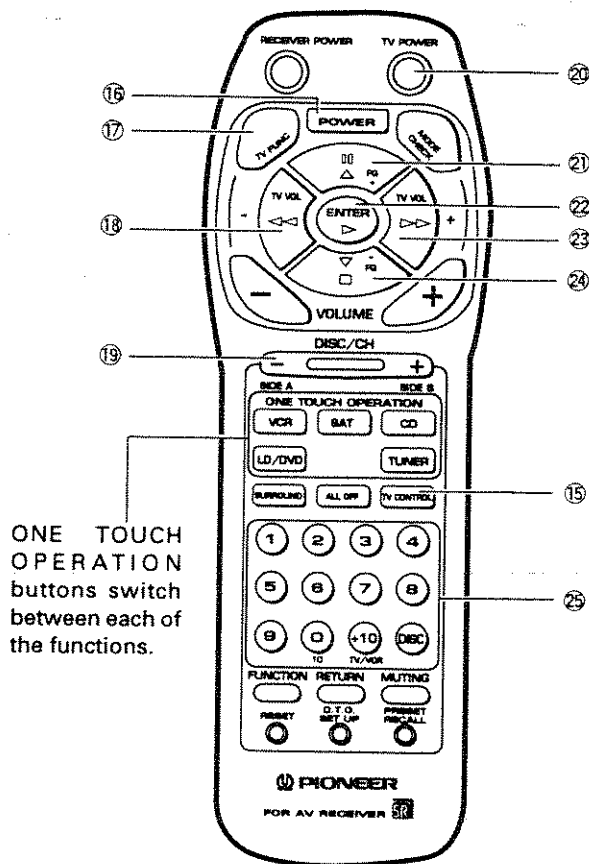
All components must be remote controllable (have a sensor window on the front panel) to receive a direct command from this unit.

When operating components other than the receiver:

1. Press the ONE TOUCH OPERATION button for the component you want to operate.
2. Press the operation button.

NOTES:

- Components that could not originally be operated by remote control cannot be controlled by this unit's remote control.
- The number of buttons assigned with code numbers will differ according to the manufacturer called by the PRESET RECALL button (P. 26).



TV operation

- 15 TV CONTROL button:**
Press this button first when viewing the TV.
- 17 TV FUNC (function) button:**
Used to change the TV FUNCTION.
TV FUNC button cannot be used with some PIONEER TVs.
- 18, 23 TV VOL (volume) +, - button:**
Raises (+) and lowers (-) the volume.
- 19 DISC/CH button:**
Switches TV channels in order.
- 20 TV POWER button:**
Switches the power of the TV ON/OFF.
- 25 Digit buttons:**
Use to select the desired TV channel. The DISC and +10 buttons will not function.

VCR operation

- 16 POWER button:**
Switches VCR power ON/OFF.
- 18 ◀◀ (REW) button:**
Rewinds the tape and allows picture search.
- 19 DISC/CH button:**
Switches TV channels in order.
- 21 || (PAUSE/STILL) button:**
Sets pause and still picture.
- 22 ▶ (PLAY) button:**
Selects playback.
- 23 ▶▶ (FF) button:**
Rapidly advances the tape and allows picture search.
- 24 ■ (STOP) button:**
Stops the tape transport.
- 25 Digit buttons:**
Use to select the desired TV channel. Button +10 switches to the TV tuner output/VCR output.
The DISC button will not function.

LD or DVD player operation

- 16 **POWER button:**
Switches LD or DVD player power ON/OFF.
- 18 **◀◀ (SCAN) button:**
Pressing quickly once takes you to the start of the chapter currently playing. Each time you press it, you move back to the start of the previous chapter. Continue pressing to rewind.
- 19 **DISC/CH button:**
Switches disc side A or B.
- 21 **⏸ (PAUSE) button:**
Video and audio are stopped and playback is paused.
- 22 **▶ (PLAY) button:**
Selects playback.
- 23 **▶▶ (SCAN) button:**
Pressing quickly once takes you to the start of the next chapter. Each time you press it, you move ahead to the start of the next chapter. Continue pressing for fast forward.
- 24 **■ (STOP) button:**
Playback is stopped when pressed once.
With some LD players, pressing the button twice may open the disc tray.
- 25 **Digit buttons:**
The DISC button will not function.

CD player operation

- 16 **POWER button:**
Switches CD player power ON/OFF.
- 18 **◀◀ (MANUAL SEARCH) button:**
Pressing quickly once takes you to the start of the track currently playing. Each time you press it, you move back to the start of the previous track. Continue pressing for reverse search.
Pressing the ◀◀ button while pressing the ■ button takes you to the previous disc. (With a file-type CD player)
- 19 **DISC/CH +, - button:**
Switches disc numbers in order.
- 21 **⏸ (PAUSE) button:**
Pauses playback.
- 22 **▶ (PLAY) button:**
Selects playback.
- 23 **▶▶ (MANUAL SEARCH) button:**
Pressing quickly once takes you to the start of the next track. Each time you press it, you move ahead to the start of the next track. Continue pressing for forward search.
Pressing the ▶▶ button while pressing the ■ button takes you to the next disc. (With a file-type CD player)
- 24 **■ (STOP) button:**
Stops playback.
- 25 **Digit buttons:**
Use to select the desired track and disc number.
For example with Pioneer FILE-TYPE COMPACT DISC PLAYER:
To select disc 5 :  
To select disc 30 :    
To select disc 100 :    

SAT (Satellite TV) operation

- 16 **POWER button:**
Switches TV (DSS) tuner power ON/OFF.
- 18, 21, 23, 24 **◀◀, ▽, △, ▶▶ button:**
Function as Digital satellite system mode selection buttons. (Correspond to Digital satellite system cursor buttons.)
- 19 **DISC/CH button:**
Switches TV (Digital satellite system) channels in order.
- 22 **▶ (ENTER) button:**
Press to finalize the Digital satellite system mode.
- 25 **Digit buttons:**
Use to select the desired TV (Digital satellite system) channel.
Button +10 and the DISC button will not function.

TUNER operation

- 19 **DISC/CH - (Station Down) button:**
Used for recalling memorized stations.
- 19 **DISC/CH + (Station Up) button:**
Used for recalling memorized stations.
- 21 **FQ + (Frequency Up) button:**
Shifts the frequency up.
- 22 **Band button:**
Switches the FM and AM bands in turn.
- 24 **FQ - (Frequency Down) button:**
Shifts the frequency down.
- 25 **Digit buttons:**
The DISC button will not function.

Auto tuning:

Press FQ + (up) or - (down) button until the frequency starts to change, then release it. The tuner will automatically search for a broadcasting station and stops when one is found, and the TUNED indicator lights up. To search for another station, press again.

Manual tuning:

Press FQ + (up) or - (down) button and release quickly. The tuning frequency will change by one step each time the button is pressed. Press as many times as necessary to tune in the desired station. The TUNED indicator lights up when the station is tuned in best.

High speed manual tuning:

If you keep the FQ (up/down) button depressed after the frequency has begun to change, the reception frequency changes continuously, and stops when the button is released.

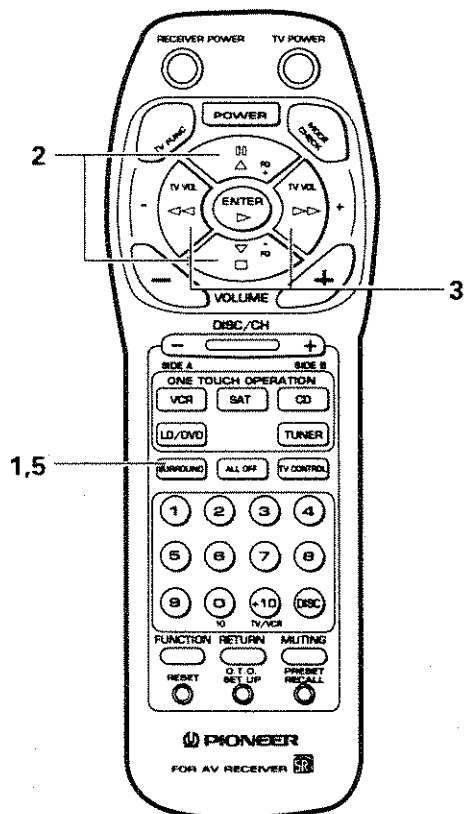
NOTE:

When AUTO TUNING is in use, reception may not be possible over long distances or when signals are weak. At these times MANUAL TUNING is recommended.

SETTING THE VARIOUS SURROUND EFFECTS (SURROUND MODE)

ISC *Intelligent
System Control*

- Using the SURROUND button, various surround effects can be set in eight modes. Select the mode using the Select/Adjust buttons (▲ or ▼), and select the desired effects using the ◀◀ and ▶▶ buttons.
- The eight modes and effects that can be selected are: SFC MODE (STUDIO, SIM. SURR, ARENA), PRO LOGIC (DOLBY PRO LOGIC ON/OFF), SP MODE (center channel mode and 3CH LOGIC), DELAY TIME (sets the delay time), TEST TONE (speaker output check), C ch LEVEL (sets the volume of the center speaker), S ch LEVEL (sets the volume of the rear speakers), S.BASS (super bass ON/OFF).
- To attain the best surround effects, set the operations of this unit according to the speaker system used.
 - When using this function for the first time or when the speaker system configuration has been changed, adjust the speaker level using TEST TONE.
 - When playing the 2-ch stereo (front L and R only), the speaker level need not be adjusted.



SETTING THE BASIC SURROUND EFFECT

1. Press the **SURROUND** button.
 - "SFC MODE" indication appears on the display.
2. Select the mode using the Select/Adjust buttons (▲ or ▼) (P.25).
3. Select the effect using the Select/Adjust buttons (◀◀ or ▶▶) (P.25).
4. Repeat steps 2 to 3 and select other modes and effects.
5. Press the **SURROUND** button.

Using the Buttons and Displays

- Each time the ▲, ▼, ◀, or ▶ button is pressed, the mode and effect change as follows.

MODEs Selected (▲ ▼ ◀ ▶)	Effects Selected (◀ ▶)
1 SFC MODE	STUDIO ↔ SIM. SURR ↔ ARENA ↔ SURR. OFF
2 PRO LOGIC	SURR. ON ↔ SURR. OFF
3 SP MODE	NORMAL ↔ WIDE ↔ PHANTOM ↔ 3CH LOGIC
4 DELAY	DELAY 15 ↔ DELAY 20 ↔ DELAY 25 ↔ DELAY 30 Varies by 5 msec each.
5 TEST TONE	When the SP MODE is NORMAL or WIDE: FRONT L → CENTER → FRONT R → REAR When the SP MODE is PHANTOM: FRONT L → FRONT R → REAR When the SP MODE is 3CH LOGIC: FRONT L → CENTER → FRONT R Automatic change
6 C ch LEVEL	C ch -12dB ↔ C ch 0dB ↔ C ch +12dB Varies by 2dB each.
7 S ch LEVEL	S ch -12dB ↔ S ch 0dB ↔ S ch +12dB Varies by 2dB each.
8 S. BASS	S. BASS ON ↔ S. BASS OFF

NOTES:

- The SURROUND mode is automatically exited when no operations are performed for more than 30 seconds to 1 minute, except for the TEST TONE mode.
- The SURROUND mode can be exited (including the TEST TONE mode) for the unit and remote control unit by pressing buttons other than VOLUME and Select/Adjust buttons.

Displays for PRO LOGIC and SFC Selection

State MODE	PRO LOGIC SURR.ON SFC	PRO LOGIC SURR.OFF SFC	PRO LOGIC SURR.OFF SFC
	SURR.OFF	SURR.ON	SURR.OFF
SFC MODE	YES	YES	YES
PRO LOGIC	YES	YES	YES
SP MODE	YES	NO	NO
DELAY	YES	NO ^{*1}	NO
TEST TONE	YES	YES	NO
C ch LEVEL	YES	NO	NO
S ch LEVEL	YES ^{*2}	YES	NO
S. BASS	YES	YES	YES

YES : Display shown NO : No display

*1 : Displayed only for SIM. SURR

*2 : No display for 3ch LOGIC

SPEAKER LEVEL ADJUSTMENT USING TEST TONE

Example:

Level adjustment of 5 speakers (front × 2, center, rear × 2)

- Referring to "SETTING THE BASIC SURROUND EFFECT", select the SP MODE, and select NORMAL or WIDE.
- Referring to "SETTING THE BASIC SURROUND EFFECT", select TEST TONE, adjust the output from each speaker to the same level using the VOLUME button (+ and -).
After adjusting, set the SFC, PRO LOGIC, DELAY, C ch LEVEL, S ch LEVEL, S. BASS modes according to the program source played back.

NOTES:

- You can select the SP MODE when using DOLBY PRO LOGIC SURROUND and DOLBY 3CH LOGIC.
When using DOLBY 3CH LOGIC, the center mode set is NORMAL.
- When the SP MODE is PHANTOM position, no test tone is output from the center speaker.
- Only when using DOLBY PRO LOGIC SURROUND and DOLBY 3CH LOGIC, can you adjust the CENTER level (C ch LEVEL).
- When using DOLBY 3CH LOGIC, the REAR speakers are not used.

SET UP THE ONE TOUCH OPERATION OF THE EQUIPMENT TO BE OPERATED

- One touch operation set up (O.T.O. SET UP)-

1. Press the one touch operation set up (O.T.O. SET UP) button.
2. Press a desired ONE TOUCH OPERATION button.

3. Select the one touch operation set up mode using the Select/Adjust buttons (▲ or ▼).

Each time these buttons are pressed, the O.T.O. SET UP mode display will change as follows.

(Example: When LD is selected)

Scrolled display →

PUSH 1	TV POWER ON / NO	LD POWER ON / NO	LD PLAY / NO	→ PUSH 1
PUSH 2	TV POWER ON / NO	LD POWER ON / NO	LD PLAY / YES	→ PUSH 2
PUSH 3	TV POWER ON / NO	LD POWER ON / YES	LD PLAY / NO	→ PUSH 3
PUSH 4	TV POWER ON / NO	LD POWER ON / YES	LD PLAY / YES	→ PUSH 4
PUSH 5	TV POWER ON / YES	LD POWER ON / NO	LD PLAY / NO	→ PUSH 5
PUSH 6	TV POWER ON / YES	LD POWER ON / NO	LD PLAY / YES	→ PUSH 6
PUSH 7	TV POWER ON / YES	LD POWER ON / YES	LD PLAY / NO	→ PUSH 7
PUSH 8	TV POWER ON / YES	LD POWER ON / YES	LD PLAY / YES	→ PUSH 8

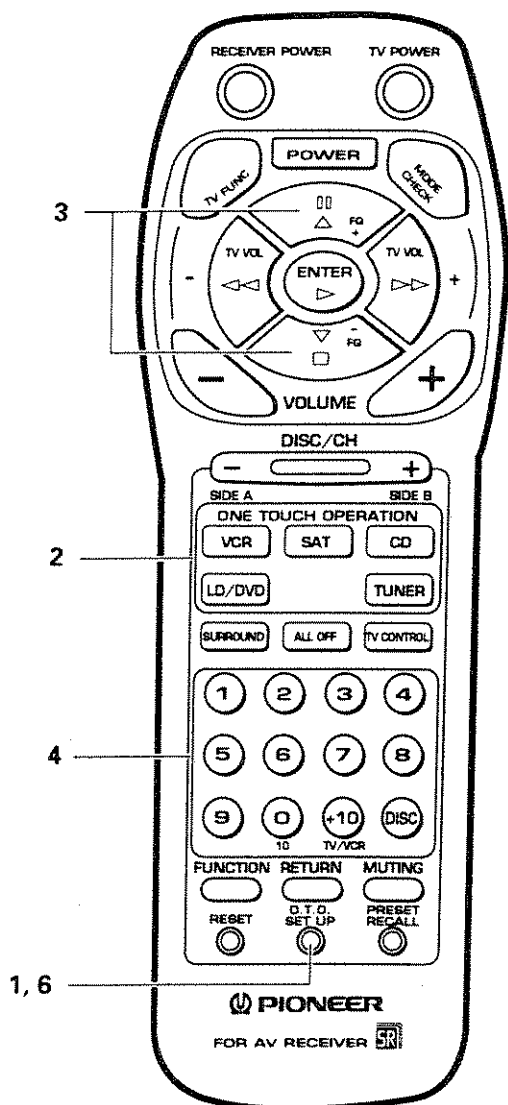
4. When the desired mode is displayed, input the number of that mode using the Digit buttons. The input is completed at the point the Digit buttons are pressed.
Example: When automatically setting up the TV, LD power and playback of the LD player, press 8. The mode can be selected and displayed interactively from eight modes for other functions as well. (Page 28.)

5. Repeat steps 2 to 4 and select the O.T.O. SET UP mode for other functions.

6. Press the one touch operation set up (O.T.O. SET UP) button.

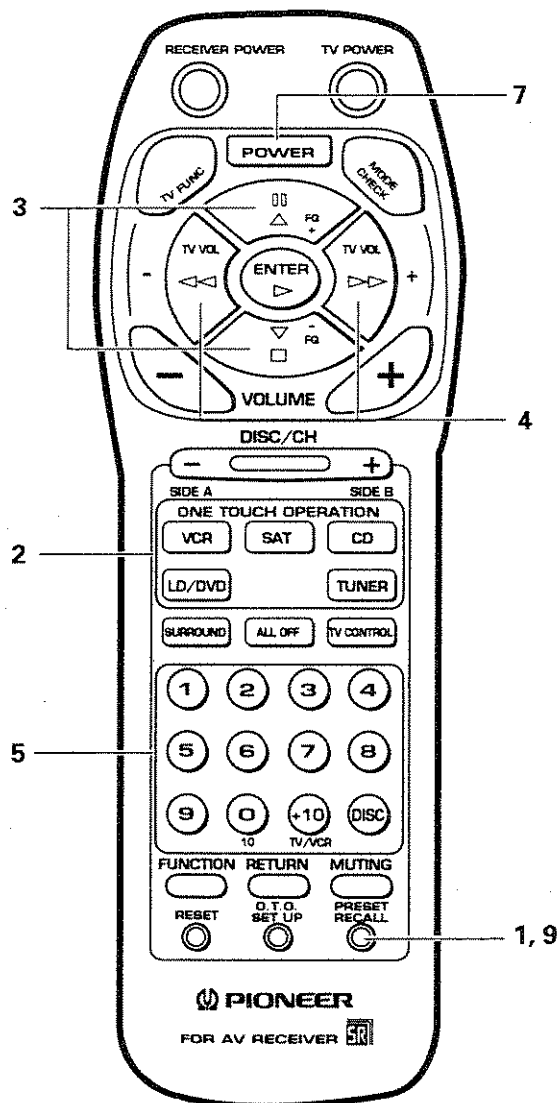
NOTE:

When buttons other than those in steps 1 to 6 are pressed during O.T.O. SET UP, this mode will be exited.



**SELECT THE MAKER NAME AND CODE
NUMBER OF THE EQUIPMENT TO BE
OPERATED** - PRESET RECALL -

The maker code numbers are preset in the order of high frequency in use. Another maker's unit can be operated according to several procedure of operation. Perform the following procedures seeing indications on the display. Refer to also the List of Maker Codes at the back when selecting the maker name and code number. (Page 31-34)



1. Press the **PRESET RECALL** button.
 - "PRESET" indication appears on the display.
2. Press a desired **ONE TOUCH OPERATION** button.
3. Select a maker name with the **Select/Adjust** buttons (▲ or ▼).

Each time the ▲ or ▼ button is pressed, the maker names will be displayed in alphabetical order.
(▲ : Rolls forward, ▼ : Rolls backward)
The desired maker name is displayed. When proceeding onto the next step, the maker name is defined.
4. Select a code number with the **Select/Adjust** buttons (◀◀ or ▶▶).

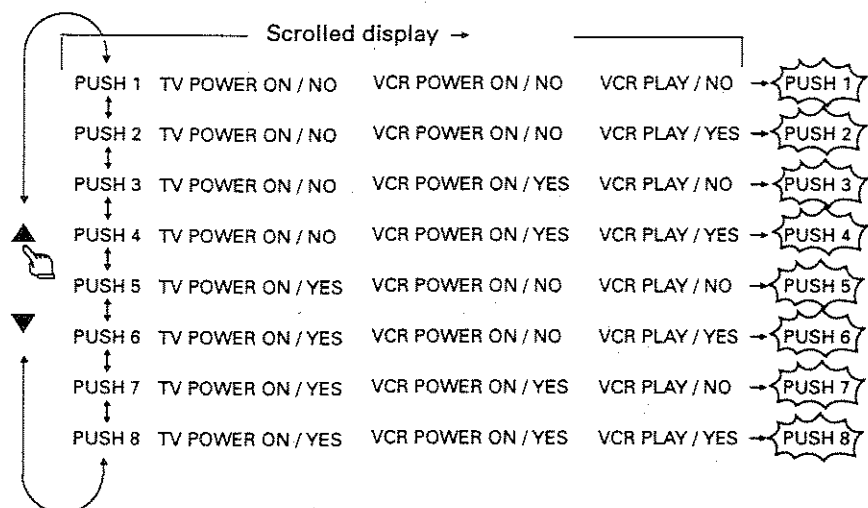
Each time the ◀◀ or ▶▶ button is pressed, the code number will be displayed.
5. Press the **Digit** button, and input the **4-digit code number displayed one by one**.

At the point when this number is input, the POWER ON signal of the equipment selected will be transmitted.
6. When the power of the selected equipment is turned on, proceed onto the next step. If the power is not turned on, repeat steps 4 and 5 until it is turned on.
7. Press the **POWER** button again to turn off the power of the equipment turned on as necessary.
8. Repeat steps 2 to 7, and select the maker names and code numbers for other functions.
9. Press the **PRESET RECALL** button.

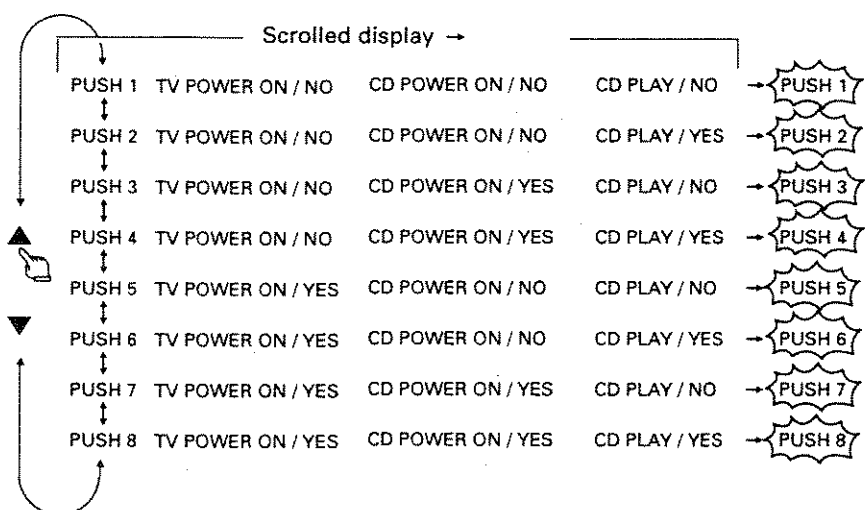
NOTES:

- If you have performed these operations incorrectly, repeat from step 1.
- If no button is pressed for about 1 minute, this mode will be automatically exited.
- When buttons other than those in steps 1 to 9 are pressed during PRESET RECALL, this mode will be exited.
- Although this remote control unit is preset with remote control codes for components from several manufacturers, it may not work with certain components.

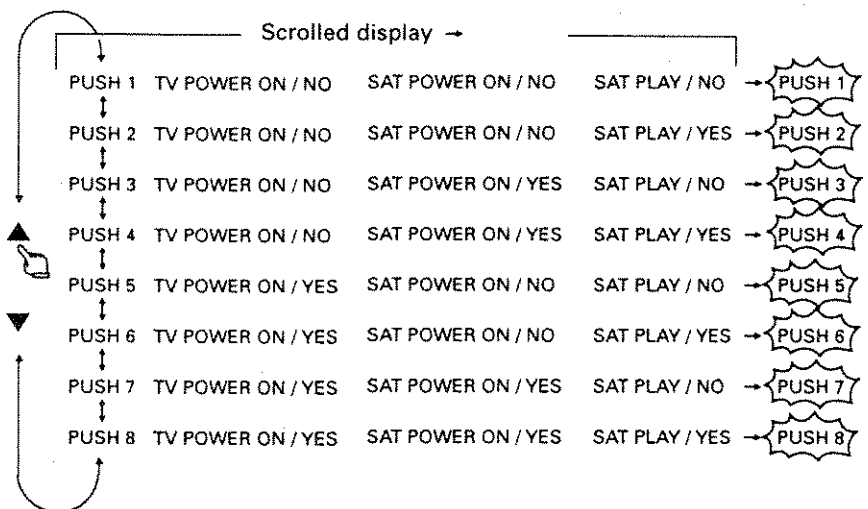
Display of VCR (TAPE 1)



Display of CD



Display of SAT (TV: PIONEER, DVD: PIONEER)



TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
Power does not come on even when the POWER switch is pressed.	● Power cord is disconnected. ● Instances are rare, but the problem may be due to the operation of the protector circuit.	● Connect cord securely. ● Unplug the power cord of the unit from the AC wall outlet, then plug it in again.
Control is not possible regardless of what operation button is pressed.	● Static electricity affects the unit when the air is dry, such as in winter.	● Unplug the power cord of the unit from the AC wall outlet, then plug it in again. ● If static electricity is pronounced, it is recommended that you operate the unit using the remote control unit.
No sound is produced, even when the input selector button is selected.	● Connections are incorrect. ● The MUTING button is pressed. ● VOLUME is turned down.	● Consult pages 7-10 and perform connections correctly. ● Press the MUTING button to cancel the MUTING effect. ● Raise volume.
	● Speaker connecting wires are disconnected from speaker terminals.	● Connect wires to terminals securely.
	● One or both of the input cords are disconnected.	● Connect input cords securely.
	● TAPE 2 MONITOR button is in the ON position.	● Press the button again to the OFF position.
	● The SPEAKERS button is OFF.	● Switch the SPEAKERS button ON.
No picture is produced, even when the input selector button is selected.	● Connection are incorrect. ● The VCR and the selected input selector button are not correct.	● Consult pages 7-10 and perform connections correctly. ● Press the correct button.
High noise level.	● Station has not been tuned in to correct frequency.	● Tune the station in correctly.
	● Antenna has not been connected or has become disconnected.	● Connect the antenna securely.
	FM reception ● Accessory FM antenna remains bundled up or it is not pointing in right direction.	● Straighten out the antenna and point in the direction which provides optimum reception.
	● Weak broadcasting station signals.	● Replace accessory FM antenna with outdoor FM antenna.
	AM reception ● AM loop antenna is not pointing in right direction.	● Change the direction of the AM loop antenna and find a position where reception is improved.
	● Weak broadcasting station signals.	● Erect an outdoor AM antenna or connect a ground wire.
	● Noise is being picked up by this unit from other equipment (especially electrical appliances using motors or fluorescent lights).	● Turn off the appliances generating noise or remove them from the vicinity of the stereo equipment.
No auto stop.	● Input signals are not strong enough.	● Separate the antenna from the unit by some distance.
TV source cannot be seen when the VCR's TV tuner is used.	● TV antenna is not connected to the VCR, or connections are faulty.	● Connet the TV antenna to the VCR.
	● You are attempting to watch a TV source using a VCR with a copy system connected. In general, when a copy system is connected, the VCR's TV tuner function cases to operate. For details, consult the operating instructions of your VCR.	● Consult the VCR's operating instructions, and connect the antenna correctly. ● Disconnect the copy system connection (TV tuner function will operate).

TROUBLESHOOTING

Symptom	Cause	Remedy
No rear sound is produced.	● The SFC MODE switch is set incorrectly. ● The REAR LEVEL is turned down. ● Speaker connecting wires are disconnected from the REAR SPEAKERS terminals.	● Set correctly. ● Refer to page 24-25 and adjust the rear level. ● Connect wires to the terminals securely.
Remote control does not work.	● Batteries are dead or missing in remote control unit. ● Poor angle or too great a distance from the remote sensor window. ● There is an obstacle between you and the remote sensor window. ● A fluorescent light is shining on the remote sensor window.	● Insert new batteries. ● Use within 7 meters (23 feet) and within a 30 degree angle of the remote sensor window. ● Change your position or move the obstacle. ● Move the receiver so fluorescent light does not shine directly on the receiver's front panel remote sensor window.

Abnormal functioning of this unit may be caused by static electricity or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

LIST OF MAKER CODES

● Some functions may not work with some manufacturers' remote control units.

CD	MAKER	CODE NUMBER	CD	MAKER	CODE NUMBER
	Adcom	4155, 4234		Wards	4108
	ADS	4243		Yamaha	4170, 4187
	Aiwa	4124, 4157	VCR (+TAPE 1)	Action	1317
	Akai	4156		Adventura	1000
	Audio Alchemy	4194		Aiko	1278
	Audio-Technica	4170		Aiwa	1000
	BSR	4194		Akai	1041, 1053, 1061, 1156, 1242
	California Audio Lab	4029		American High	1035
	Capetronic	4237		Asha	1240
	Carrera	4194, 4394		Audiovox	1037
	Carver	4157, 4179		Beaumark	1240
	Denon	4003		Bell & Howell	1104
	DKK	4000		Broksonic	1121, 1184, 1211, 1295, 1361
	Emerson	4155, 4164, 4305		Calix	1037
	Fisher	4048, 4088, 4174, 4179		Canon	1035, 1167
	Garrard	4393		Carver	1081
	Genexxa	4032, 4164, 4305		CCE	1072, 1278
	Goldstar	4383, 4394		Citizen	1037, 1278
	Harman/Kardon	4108, 4173		Colt	1072
	Hitachi	4032, 4155		Craig	1037, 1047, 1072, 1240
	JVC	4072		Curtis Mathes	1035, 1041, 1060
	Kenwood	4028, 4037, 4048, 4190		Cybernex	1051, 1240
	Kodak	4287		Daewoo	1045, 1087, 1278
	Krell	4157		Denon	2076
	Luxman	4149		Dynatech	1000
	LXI	4305		Electrohome	1037
	Magnavox	4157		Electrophonic	1037
	Marantz	4029, 4157, 4180		Emerex	1032
	MCS	4029		Emerson	1000, 1002, 1037, 1043, 1061, 1088
	Mission	4157			1121, 1184, 1208, 1209, 1211, 1212
	Mitsubishi	4098			1294, 1295, 1361
	Namamichi	4147		Fisher	1047, 2074, 1054, 1066, 1104
	NEC	4234		Fuji	1033, 1035
	Nikko	4164, 4170, 4174		Funai	1000
	NSM	4157		Garrard	1000, 2308, 2309
	Onkyo	4101, 4102		GE	1035, 1060, 1065, 1202
	Optimus	4000, 4032, 4037, 4175, 4179		Go Video	1232, 1279
		4194, 4196, 4305, 4468		Goldstar	1037
	Panasonic	4029		Gradiente	1000
	Parasound	4194		Harley Davidson	1000
	Philips	4157, 4274, 4287		Harman/Kardon	1075
	Pioneer	0002, 4032, 4096, 4244, 4468		Harwood	1072
	Proton	4152, 4157		HI-Q	1047
	QED	4157		Hitachi	1041, 1042, 1065, 1082, 1105
	Quasar	4029			1145, 1166
	RCA	4053, 4155, 4179, 4305		Jensen	1041
	Realistic	4155, 4164, 4175, 4179, 4180, 4237		JVC	1008, 2244, 1041, 1067
	Rotel	4157		Kenwood	1041, 2071, 1067, 2233, 2234
	SAE	4157		KLH	1072
	Sansui	4157, 4202, 4305		Kodak	1035, 1037
	Sanyo	4179		Lloyd	1000
	Scott	4155, 4164, 4305		Lloyd's	1208
	Sears	4305		Logik	1072
	Sharp	4037, 4180		LXI	1037
	Sherwood	4114, 4180, 4196		Magnavox	1035, 1039, 1081, 1110, 1149
	Signature	4108		Magnin	1240
	Sony	4000, 4185, 4397		Marantz	1035, 1081, 1146
	Soundesign	4145		Marta	1037
	Symphonic	4183		Matsushita	1035
	Teac	4153, 4174, 4180, 4183, 4393		MEI	1035
	Technics	4029		Memorex	1000, 1035, 1037, 1039, 1047, 1048
	Vector Research	4194, 4394			1104, 1240
	Victor	4072		MGA	1043, 1061

LIST OF MAKER CODES

	MAKER	CODE NUMBER		MAKER	CODE NUMBER
VCR (+TAPE 1)	MGN Technology	1240	VCR (+TAPE 1)	Wards	1000, 2027, 1035, 1042, 1047, 1048
	Minolta	1042, 1105		XR 1000	1062, 1072, 1149, 1212, 1240
	Mitsubishi	1043, 1061, 1067, 1075, 1173, 1214		Yamaha	1000, 1035, 1072
		1242		Zenith	2097
	Motorola	1035, 1048	SAT	Birdview	1033, 1034, 1039
	MTC	1000, 1240		BSR	3045
	Multitech	1000, 1072		Capetronic	3095
	NAD	1058		Channel Master	3095
	NEC	1041, 1050, 1067, 1082		Chaparral	3018, 3212
	Nikko	1037		Drake	3053, 3209
	Noblex	1240		Echostar	3018, 3064, 3149, 3150, 3245
	Olympus	1035, 1226		Equus	3148, 3159, 3218, 3269, 3312
	Onkyo	2136		Fujitsu	3181
	Optimus	1037, 2027, 1048, 1058, 1104, 2220		General Instrument	3186, 3236
	Optonica	1062		Homecable	3038, 3050
	Panasonic	1035, 1077, 1225, 1226, 2250, 2272		Hytek	3238
	Penney	1035, 1037, 1042, 1054, 1240		IQ Prism	3095
	Pentax	1042, 1065, 1105		Janeil	3210
	Philco	1035		Kenwood	3152
	Philips	1035, 1062, 1081, 1110		Luxor	3264
	Pilot	1037		Macom	3083
	Pioneer	0011, 0001, 1058, 2027, 1067, 2220		Memorex	3018, 3050
	Protec	1072		NEC	3269
	Pulsar	1039, 1051		Norsat	3102
	Quasar	1035, 1077		Panasonic	3165
	Radio Shack	1000, 1037		Pioneer	3152
	Radix	1037		Prosat	0009, 0010, 0003, 3566
	Randex	1037		RCA	3158
	RCA	1042, 1060, 1065, 1077, 1105, 1149		Realistic	3566
		1202		Salora	3052
	Realistic	1000, 1035, 1037, 1047, 1048, 1062		Scientific Atlanta	3182
		1066, 1104, 1240		Sony	3234, 3355
	Ricoh	1034		Star Trak	3639
	Runco	1039		STS	3180
	Saisho	1145		Super Guide	3190, 3210
	Samsung	1045, 1051, 1053, 1240		Uniden	3311
	Sanky	1039, 1048		Zenith	3052, 3074, 3076, 3238, 3296
	Sansui	1041, 1067, 1082	LD	Aiwa	3064
	Sanyo	1047, 1104, 1240		Carrer	5203
	Scott	1043, 1045, 1121, 1184, 1210, 1211		Denon	5064, 5194
		1212		Funai	5172
	Sears	1035, 1037, 1042, 1047, 1054, 1057		Kenwood	5203
		1066, 1104, 1105		Magnavox	5236
	Sharp	1048, 1062		Marantz	5194, 5217
	Shintom	1072		Mitsubishi	5064, 5194
	Shogun	1051, 1240		NAD	5059
	Singer	1072		Panasonic	5059
	Sony	1032, 2170, 1033, 2243, 1034, 1035		Philips	5204, 5230
	STS	1042		Pioneer	5064, 5194
	Sylvania	1000, 1035, 1043, 1081, 1110		Quasar	0008, 0003, 5059
	Symphonic	1000		Realistic	5204
	Tatung	1041		Sony	5203
	Teac	1000, 1041, 2280, 2289, 2308, 2309		That a Digital	5193, 5201
	Technics	1035, 2229		Yamaha	5194
	Teknika	1000, 1035, 1037, 1052	TV (+CATV)	ABC	5217
	Telefunken	1187		Abex	7003, 7007, 7008, 7011, 7013
	TMK	1208, 1240		Admiral	7014, 7017, 7047
	Toshiba	1043, 1045, 1057, 1066, 1210, 1212		Aiko	6032
	Totevision	1037, 1240		Akai	6093
	Unitech	1240		Alleron	6092
	Vector	1045		Ambassador	6030
	Video Concepts	1045, 1061			6179, 6183, 6216
	Videosonic	1240			6177

LIST OF MAKER CODES

TV (+CATV)	MAKER	CODE NUMBER	TV (+CATV)	MAKER	CODE NUMBER
	Anam	6180		Jerrold	7003, 7011, 7012, 7014, 7024
	Anam National	6055			7047, 7276
	Antronix	7022		JVC	6036, 6053, 6182
	AOC	6019, 6030, 6137, 6185		Kamp	6216
	Archer	7022		Kawasho	6158, 6216, 6308
	Audiovox	6180		Kenwood	6019, 6030
	Belcor	6019, 7056		KTV	6030, 6039, 6180, 6183, 6185, 6217
	Bell & Howell	6016, 6154			6280
	Bradford	6180		Logik	6016
	Brockwood	6019		Luxman	6056
	Cable Star	7056		LXI	6047, 6054, 6148, 6154, 6156, 6178
	Cabletenna	7022		Macom	7033
	Cableview	7022		Magnavox	6030, 7027, 6036, 6054, 6096, 6186
	Candle	6030, 6056, 6186			6230
	Carver	6054		Majcstic	6016
	CCE	6217		Marantz	6030, 6054
	Celebrity	6000		Matsui	6217
	Citizen	6030, 6039, 6056, 6060, 6092, 6186		Megatron	6145, 6178
		6280		MEI	6185
	Clairtone	6185		Memorex	6016, 7000, 6056, 6150, 6154, 6178
	Colour Voice	7025, 7031		MGA	6019, 6030, 6150, 6155, 6178
	Comtronics	7040, 7060		Midland	6017, 6032, 6039, 6047, 6051, 6135
	Concerto	6056		Minutz	6021
	Contec	6158, 7019, 6180, 6185		Mitsubishi	6019, 6150, 6155, 6178
	Craig	6180		Motorola	6055, 6093
	Crown	6039, 6180		Movie Time	7063, 7078
	Curtis Mathes	6030, 6039, 6060, 6154		MTC	6019, 6030, 6056, 6060, 6091, 6185
	CXC	6180		Multitech	6180, 6217
	Daewoo	6019, 6039, 6091, 6092		NAD	6156, 6166, 6178
	Daytron	6019, 6039		NEC	6019, 6030, 6036, 6056
	Dumont	6017, 6019		Nikko	6030, 6092, 6178, 6317
	Eastern	7002		NSC	7063, 7070
	Electricord	7078		NTC	6092
	Electroband	6000, 6185		Oak	7007, 7019
	Emerson	6019, 6038, 6039, 6154, 6158, 6177		Onwa	6180
		6178, 6179, 6180, 6181, 6182, 6183		Optimus	6154, 6166
		6185, 6236, 6270, 6280, 6282		Optonica	6093, 6165
	Envision	6030		Orion	6236
	Fisher	6154, 6159		Panasonic	6051, 7021, 6054, 7107, 6055, 6250
	Focus	7400			6338
	Fujitsu	6179		Paragon	7000
	Funai	6179, 6180		Penney	6019, 6021, 6030, 6032, 6039, 6047
	Futuretech	6180			6051, 6060, 6135, 6149, 6156, 6178
	GC Electronics	7056		Phiico	6019, 6030, 6054, 6096
	GE	6021, 6047, 6051, 6055, 6135, 6174		Philips	6054, 7025, 7027, 7028, 7029, 7030
		6178, 6282			7031
	Gemini	7070		Pilot	6019, 6030, 6039
	General Instrument	7011, 7276		Pioneer	0010, 0012, 6038, 7144, 6166
	Gibraltar	6017, 6019, 6030		Popular Mechanics	7400
	Goldstar	6019, 6030, 6032, 6039, 6056, 6178		Portland	6019, 6039, 6092
		7040, 7144		Priceclub	6060
	Grunpy	6179, 6180		Prism	6051
	Halimark	6178		Proscan	6047
	Hamlin	7009, 7020, 7034, 7259		Proton	6031, 6178
	Harvard	6180		Pulsar	6017, 6019, 7000
	Hitachi	6032, 7011, 6038, 6056, 6095, 6097		Quasar	6051, 6055, 6250
		6145, 6151, 6173		Radio Shack	6019, 6032, 6039, 6165, 6180
	Hytex	7007		RCA	6019, 7021, 6038, 6047, 6135, 6174
	Ima	6180			6090
	Infinity	6054		Realistic	6019, 6030, 6032, 6039, 6056, 6154
	JBL	6054			6165, 6178, 6180
	JCB	6000		Recoton	7400
				Regal	7020, 7259

LIST OF MAKER CODES

TV (+CATV)	MAKER	CODE NUMBER	TV (+CATV)	MAKER	CODE NUMBER
	Regency	7002		Tandy	6093
	Rembrandt	7011, 7070		Tatung	6055
	Rhapsody	6183, 6185, 6216		Technics	6051, 6250
	Runco	6017, 7000, 6030		Techwood	6051, 6056
	Sampo	6030, 6032, 6039		Teknika	6016, 6019, 6039, 6054, 6056, 6060
	Samsung	6019, 7040, 6030, 7144, 6032, 6039			6092, 6150, 6179, 6180, 6186, 6312
		6056, 6060, 6178			6322
	Samsux	6039		Teleview	7040
	Sanyo	6146, 6154, 6159		Tera	6031
	Scientific Atlanta	7008, 7017, 7277		TMK	6056, 6177, 6178
	Scimitsu	6019		Tocom	7012, 7013, 7059
	Scotch	6178		Toshiba	6036, 7000, 6060, 6149, 6154, 6156
	Scott	6019, 6178, 6179, 6180, 6236		Tosonic	6185
	Sears	6047, 6054, 6056, 6146, 6148, 6149		Totevision	6039
		6154, 6156, 6159, 6171, 6178, 6179		TV86	7063
	Sharp	6039, 6093, 6153, 6165		Ultra	6391
	Shogun	6019		Unika	7022
	Signal	7040		United Artists	7007
	Signature	6016, 7011		United Cable	7003
	Simpson	6186		Universal	7022, 7056, 7077, 7078, 7191
	SL Marx	7040		Vector Research	6030
	Sony	6000, 6273		Victor	6053
	Soundesign	6178, 6179, 6180, 6186		Vidikron	6054
	Spectricon	6137		Vidtech	6019, 6178
	Sprucer	7021		Viewstar	7027, 7060, 7063
	Squareview	6171		Wards	6016, 6019, 6021, 6030, 6054, 6056
	SSS	6019, 6180			6096, 6165, 6174, 6178, 6179
	Starcom	7003, 7047		Yamaha	6019, 6030
	Stargate	7040		Zenith	6016, 7000, 6017, 7054
	Starlite	6180		Zentek	7400
	Supreme	6000			
	Sylvania	6030, 6054, 6096			
	Symphonic	6171			

SPECIFICATIONS

Amplifier Section

Continuous average power output of 150 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.09 % total harmonic distortion (front).**

[Multi-voltage model only]

Continuous Power Output (DIN)

Front (1 kHz, T.H.D. 1 %, 8 Ω) 165 W + 165 W

Continuous Power Output

Front 135 W + 135 W (1 kHz, 0.8 %, 8 Ω)

Center 135 W (1 kHz, 0.8 %, 8 Ω)

Rear 135 W (1 kHz, 0.8 %, 8 Ω)

Dynamic Power (2 Ω /4 Ω /8 Ω) 350 W/280 W/180 W

Input (Sensitivity/Impedance)

PHONO MM 2.8 mV/47 k Ω

CD, VCR/TAPE 1, TAPE 2, LD/DVD 200 mV/47 k Ω

Phono Overload Level (T.H.D. 0.1 %, 1 kHz)

PHONO MM 100 mV

Frequency Response

PHONO MM 20 Hz to 20,000 Hz $\pm$ 0.3 dB

CD, VCR/TAPE 1,

TAPE 2, LD/DVD 5 Hz to 100,000 Hz $\pm$ 3 dB

Output (Level/Impedance)

VCR/TAPE 1 REC, TAPE 2 REC 200 mV/2.2 k Ω

Tone Control

BASS $\pm$ 8 dB (150 Hz)

TREBLE $\pm$ 8 dB (10 kHz)

SUPER BASS + 8 dB (80 Hz)

Signal-to-Noise Ratio (IHF, short circuited, A network)

PHONO MM 72 dB

CD, VCR/TAPE 1, TAPE 2, LD/DVD 96 dB

Signal-to-Noise Ratio [EIA, at 1 W (1 kHz)]

PHONO MM 75 dB

CD, VCR/TAPE 1, TAPE 2, LD/DVD 79 dB

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.

** Measured by Audio Spectrum Analyzer.

VIDEO Section

Input (Sensitivity/Impedance)

VCR, LD/DVD 1 Vp-p/75 Ω

Output (Level/Impedance)

VCR REC, MONITOR TV 1 Vp-p/75 Ω

Frequency Response

VCR, LD/DVD $\rightarrow$ MONITOR 5 Hz to 7 MHz $\pm$ 0.5 dB

Signal-to-Noise Ratio 55 dB

Cross Talk 55 dB

FM Tuner Section

Frequency Range 87.5 MHz to 108 MHz

Usable Sensitivity Mono: 11.2 dBf, IHF (1.0 μ V/75 Ω)

50 dB Quieting Sensitivity Mono: 16.8 dBf

Stereo: 38.6 dBf

Signal-to-Noise Ratio Mono: 73 dB (at 85 dBf)

Stereo: 70 dB (at 85 dBf)

Distortion Stereo: 0.5 % (1 kHz)

Alternate Channel Selectivity 60 dB (400 kHz)

Stereo Separation 40 dB (1 kHz)

Frequency Response 30 Hz to 15 kHz ($\pm$ 1) dB

Antenna Input 75 Ω unbalanced

AM Tuner Section

Frequency Range 531 kHz to 1,602 kHz (9 kHz step)

530 kHz to 1,700 kHz (10 kHz step)

Sensitivity (IHF, Loop antenna) 350 μ V/m

Selectivity 25 dB

Signal-to-Noise Ratio 50 dB

Antenna Loop antenna

Miscellaneous

Power Requirements

U.S. and Canadian models AC 120 V, 60 Hz

Multi-voltage model AC 110 V/120-127 V/220 V/240 V

(Switchable), 50/60 Hz

Power Consumption

U.S. and Canadian models 340 W, 500 VA

Multi-voltage model 905 W

In Standby Condition 3 W

AC Outlet

U.S. and Canadian models

SWITCHED 100 W (0.8 A) MAX

Multi-voltage model

SWITCHED 100 W MAX

Dimensions 420 (W) $\times$ 155 (H) $\times$ 300 (D) mm

16-9/16 (W) $\times$ 6-1/8 (H) $\times$ 11-13/16 (D) in

Weight (without package) 9.6 kg (21 lb 3 oz)

Furnished Parts

FM Antenna 1

AM Loop Antenna 1

Dry Cell Batteries (AA/LR6) 2

Remote Control Unit 1

Operating Instructions 1

NOTE:

Specifications and the design are subject to possible modifications without notice, due to improvements.



Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzene, insecticide sprays or other chemicals on or near this unit, since these will corrode the surfaces.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel

Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.



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